

Tribal Metaphors in Social Game Design; Creating Conflict and Camaraderie through Context

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ABSTRACT

This paper briefly explores the emergence of tribal patterns in social play. The formation of community groups is not just a result of game design, but a fundamental part of the social nature of the species. Tribal effects, such as favouritism towards fellow group members, have been studied by social psychologists for decades (e.g. [22,15,7]).

We highlight some specific existing mechanics that enable and encourage this kind of behaviour in social games, and identify the importance of social feedback in generating tribal feelings.

An experiment is described, that explores the minimal conditions of tribal behaviour player groups in social games. Specifically, it identifies the importance of feedback on social context in supporting the emergence of in-group favouring tribal play.

Author Keywords

Social games, sociability, game design, tribalism, tribal play, social play

INTRODUCTION

The wider communities of online social games can involve thousands, or even millions, of players, but these are not always close-knit societies. Within the community of a large social game, the players tend split into smaller groups. These tribes can be defined formally by the game designers, or informally by the players; they can be long-lasting ventures involving hundreds of players and complicated internal politics, or they can be associations of convenience that exist for just a few hours. In any case, exploring the behaviours of players as they join together in groups is important in understanding social play.

Us and Them

A great deal of attention in social psychological research has been given to investigating the behaviour of people in groups in terms of theories of social identity. One of the most robust, and replicated, findings in this field is that

when a person identifies themselves as a member of a social group, this can lead to significant changes in their self-perception, as well as changes in their behaviour both towards other members of that social group as well as to people who are not associated with that group [23]. Specifically, people show favouritism for members of the same group (the “in-group”) ahead of non-members (the “out-group”).

Making a distinction between “us” and “them” within a larger community has a psychological effect that has defined large-scale social movements since the dawn of culture. Study of this group-favouring behaviour has a basis in the anthropological study of “Tribalism”, where members of social groups feel a strong sense of cultural identity [21].

This form of social behaviour is not just historical - academics in sociology note that “Neo-Tribalism” is observed in modern contexts, such as in neighbourhood watch movements, youth subcultures and hobby clubs [15]. Joining such social groups has direct effects on self-perception for the individuals who identify with these groups.

In an online context, where identity is generally concealed, it is intuitive to believe that more complex effects of group identity aren't present - that somehow there is a blank slate where people act more rationally. However this is not the case. For example, new members joining online communities actively change their behaviour to better match the norms of their new tribe [13]. The SIDE model (social identity model of deindividuation effects [18]) argues that social identity plays an important part in determining behaviour, and it has been applied in experimental studies of numerous online contexts [19, 20, 4] with varying degrees of anonymity. The development of social identity based on groups appears to be one of the most fundamental human social traits, and can be observed in a large variety of contexts. It is not limited to developing cultures or direct face-to-face contexts, but appears wherever group members possess a strong feeling of identity and loyalty to their group. It is therefore not surprising that social identity and in-group bias is a common feature of social play.

TRIBALISM IN GAMES

Despite the history of tribalism being littered with dire warnings from extremist abuses, it can also lead to positive effects. It has been experimentally demonstrated (e.g. [2]) that competition between groups, even when randomly selected, leads to better overall coordination and efficiency in tasks when compared with individual efforts. With restraint and a strong emphasis on perspective, tribalism can be even be a source of *fun*!

Many large-scale social games already use tribal metaphors to great success. The MMOGs *Dark Age of Camelot*, *Anarchy Online* and *World of Warcraft* all formally split the player-base into pre-determined competing factions as part of the wider narrative - Just like the athletes of different nationalities compete as part of the *FIFA World Cup*. *Eve Online*, *Shadowbane* and *Age of Conan* also have larger wars as part of their narratives, but the tribes are more informal - they are defined and organised by the players rather than the developers.

Tribalism brings people together- it can give feelings of identity and belonging, and makes 'friends' out of strangers. Within games, the psychological drives of tribalism create opportunities for exciting forms of play, and within a safe social environment.

Social Architectures for Motivating Tribalism

The mechanics of a game form a "social architecture" that greatly affects the patterns of social behaviours within that game [11]. Careful design of social mechanics can be used to encourage, or discourage, specific social behaviours such as tribalism. At its simplest form, players can be encouraged to form groups by creating challenges that are unachievable, or extremely difficult, for individuals to manage alone. It is then natural for players to cooperate in small, temporary groups in order to meet the challenge (presuming the reward is suitable).

Although tweaks to the central mechanisms of the game (e.g. murdering wildlife for experience points) can encourage group behaviours in games, for players to feel a part of a "tribe", the architecture must support ways for players to organise at a larger scale. There needs to be a way for players to self-organise into "us"-es and "them"s. In designing online communities, Amy Jo Kim highlights the potential benefits of allowing users to form groups [8], but to flourish, social groups must be given spaces, tools and support from the architecture of the system beneath. The established standard in larger social games is in the support of team structures usually known as "guilds" or "clans". Players don't need to have formal architectures to support team play, for example FPS games have a long history of self-organised teams, leagues and tournaments, however, the architecture can be designed to reduce the effort needed by individuals to maintain such systems (creating websites, moderating IRC channels...).

Formal in-game tribal mechanisms mean the developers can include useful social features – "guild chat" allows players to talk to fellow guild members at any time regardless of distance. Shared property can give tribes a presence in the game world, and guild inventories allow tribes to own and share equipment. In their study of grouping behaviours in *World of Warcraft*, Nicolas Ducheneaut and colleagues find [5] that players using these social mechanics (i.e. being a member of an in-game guild) increase the amount of groups that they are involved with during play, the rate of advancement in the game and also increase the amount of time spent playing. Identification within groups such as guilds is an important source of social value within games [25].

Feelings of tribal identity are commonly further supported by allowing players to publicly display their affiliation. This might be by having a badge in the player profile, or even appending a guild abbreviation to names. In order to create a "them", systems of inter-tribe competition are created. These can be directly competitive such as in team PvP competitions and guild ranking systems, or indirectly competitive through social means - guilds acting as a social group, working together on the more difficult group challenges ahead of other tribes. More complicated tribal systems can have more in common with governments than guilds. In *Eve Online*, a notoriously cutthroat massively multiplayer sci-fi space opera, the social structure for tribes is through complex "corporations". *Eve* supports player-controlled craft up to the equivalent of naval capital ships. However, these craft are far too expensive for individuals to ever manufacture or purchase, so are essentially limited to corporation level play - purchased through the taxation of the players in that corporation. Corporations are engaged in elaborate webs of espionage and counter-espionage, also dabbling in intelligence and propaganda. The political system in *Eve* is so complicated, the players have essentially formed some of the first functioning virtual nation-states, complete with the equivalent of dictators, armed forces and a repressed proletariat.

Socio-contextual Feedback and Social Identity

In order for game design to support tribalism, it is important that the players have a feeling of social identity. The social architecture must therefore reinforce and enhance feelings of community, by specifically demonstrating to players that they are *in* a community. The design of online social systems specifically has complications of social context. For example, when studying face-to-face and online social interactions, Adrianson and Hjelmquist [1] found that typically face-to-face communication features more complex negotiation and diplomacy. However, when mediated by the Internet, it showed a greater reliance on extended information sharing and greater amounts of data exchange.

The difference of context means that non-verbal aspects are often lacking in mediated communication. Efforts to

increase the richness of communication online are generally based around making the *implicit* social factors in face-to-face communications more *explicit* in a virtual context. Researchers in Computer-mediated communication (CMC) have conducted a great deal of work on replicating typical non-verbal aspects of face-to-face communication in computer mediated social environments and also introducing new non-verbal cues in a manner that is respectful of the context in which these interactions take place (e.g. [6]). One of the major strategies for increasing the richness of social presence has been by exposing the underlying social behaviours of group members, and making implicit factors in computer-mediated communication explicit. For instance, applications have been created that expose social network information [17] as “Socio-Contextual” information (data that makes hidden information about the social context of individuals more visible) to participants within group working scenarios [9, 3, 14].

By exposing these implicit relationships to the players, the game designer can use these same principles to trigger changes in their social behaviour. For example, in a controlled study of cooperation within a treasure hunting game, Francesco Martino and colleagues [16] found that displaying socio-contextual feedback in the form of Social Network Analysis (SNA) statistics to players had a positive effect on increasing group ability to cooperate and engage with the game objectives.

RANDOM TRIBES AND MINIMAL PLAYER GROUPS

Given that there is significant evidence showing the links between socio-contextual feedback and generally social behaviour in games, we were interested in the potential of generating broader tribal behaviour with the same approach.

Specifically, we were interested to see the effect of putting people into randomly determined “tribes” actually generated social behaviour typical of these kind of social groupings, and the role of socio-contextual information on that behaviour. In this case, we use “in-group favouring” as the metric for tribal behaviour. By collecting information about each social interaction within the game, we can determine if the players show any preference for interacting with members of their own tribe, even where there is no pre-existing relationship tying those players together.

PASION Fruit

The game PASION Fruit is a multiplayer fruit trading game that was released openly on the web. When registering to play the game, the system automatically joins the player to one of ten random groups as they register for the game.

The game itself was based on trading several varieties of fruit. Each player grows a fruit garden that natively holds a few varieties of fruit. Players could send one another gifts of fruit trees to grow and collect, and points were awarded based on the variety of fruit collected and reduced by the environmental impact of the transaction (based on real-

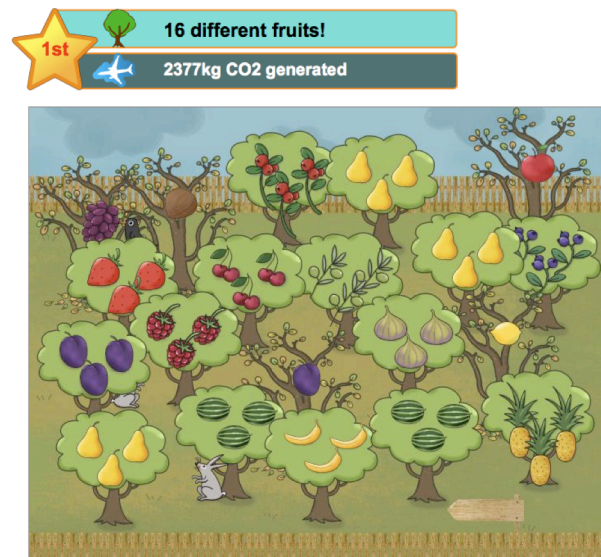


Figure 1 - PASION Fruit Garden

world distance between players). Importantly, in the game design, although cooperation and negotiation were required for personal achievements (i.e. higher scores), this was explicitly separate from the mechanics of group membership. There was no in-game benefit for choosing to interact with a fellow group member ahead of any other player. Similarly, there was no restriction on the choice of possible recipient. Players were able to give gifts to any member of the wider player-base, regardless of location or group membership.

In the game, each group had a screen that showed members of the group as well as context information about the social behaviour of group members. This included social network indices and a social network visualisation to encourage social activity.

In order to see the effects of social context on the tribal behaviour, a control version of the game was also implemented that was identical in every way to the original except for the name “Fruit Loot”) and the lack of social context information for group members. In this condition, players were assigned groups randomly in the same fashion except the group information pages simply showed a list of fellow members. The point of the control was to be able to identify the difference that social feedback has on in-group favouring behaviours.

Both games were released to the public simultaneously, and a “seed group” of players were recruited from a pool of volunteers sourced online and through prior contact with the overarching project. The game was open to the public and players were encouraged to invite friends into the game, therefore creating a “snowball sample” of players with interest in the game.

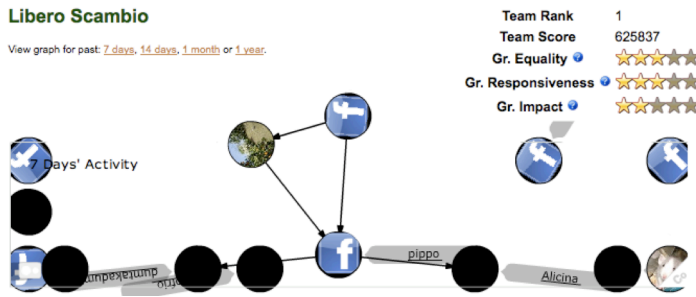


Figure 2 - Social feedback within groups

Results

After a period of 11 weeks, data was gathered to evaluate the effect of socio-contextual feedback on tribal behaviour in games. In this experiment, the mean number of events (fruit exchanged or received) by each participant was 13.4 in *PASION Fruit*, and 5.83 in the control condition. Means showed a larger activity (and therefore higher engagement) for participants involved in the condition with socio-contextual feedback about group activity. This finding supports existing findings that show the positive effect of such feedback on engagement with social games.

Analysis of the interactions in both conditions showed that the cumulative function of player activity between users in both conditions followed similar heavy-tailed distributions, which is normal for social activity in games [11, 12].

The similarity in distribution shows that the macroscopic patterns of social interactions were close across both conditions. Players at similar levels of activity interacted with a similar number of co-players. Importantly, this confirms that the similarity of the social architecture between conditions. Despite having different players, the mechanics of both games resulted in similar patterns of social interactions. Any difference in the choice of co-player is therefore due to the experimental variables and has not been confounded by external factors.

In-group Bias

By comparing the volume of social interactions between members of the same group, a picture of in-group bias emerges. In this experiment, presuming players chose recipients strictly randomly and given the groups are of equivalent size; the expected in-group bias would tend towards 10% based on chance (since there are 10 groups in both conditions, of the same size). However, in the social condition, the mean value for bias across the user-base was 23.3% compared to the control condition with 5.97%.

Figure 3 shows a comparison of the two conditions based on the number of gifts a user sent to members of their own group (in-group) and other players (out-group). The lines show the expected split of in/out-group partnerships based on random player choice (i.e. 10% in-group), so points above that line represent players that favoured group members disproportionately. As can be seen, many players in the social feedback condition favoured the in-group more than would be expected at random. Comparing the

proportion of in-group bias using an unpaired t-test (presuming player bias, calculated as in-group interactions over *out-degree*, follows a Gaussian distribution), the condition with social feedback showed greater in-group favouritism with $p < 0.01$. Therefore, the data gathered about actual player behaviour gives support to the argument that showing players this level of socio-contextual feedback regarding group membership results in players showing disproportionate bias towards interacting with group members.

Social Identity

In a post-trial questionnaire, users in the social condition responded to questions about their membership of the groups. Players reported mixed opinions about group identity – asked for their agreement with the statement “I felt a part of my group”, 36.3% agreed or strongly agreed, and 39.3% disagreed or strongly disagreed; the rest being neutral. In response to the statement “I was more likely to give gifts to members of my group”, 57.6% of users stated they agreed or strongly agreed, compared to 27.3% who disagreed or strongly disagreed. Players were asked to select how important various factors were in choosing whom to send a gift. In response to “Membership of your group”, 54.5% of users thought it was somewhat, or very, important compared to 24.1% who thought it was somewhat or very unimportant. The responses to the questions about group identity were mixed, however the analysis of server logs shows that when choosing a player to whom a gift will be sent, there was a higher probability to find that players would choose fellow group members in

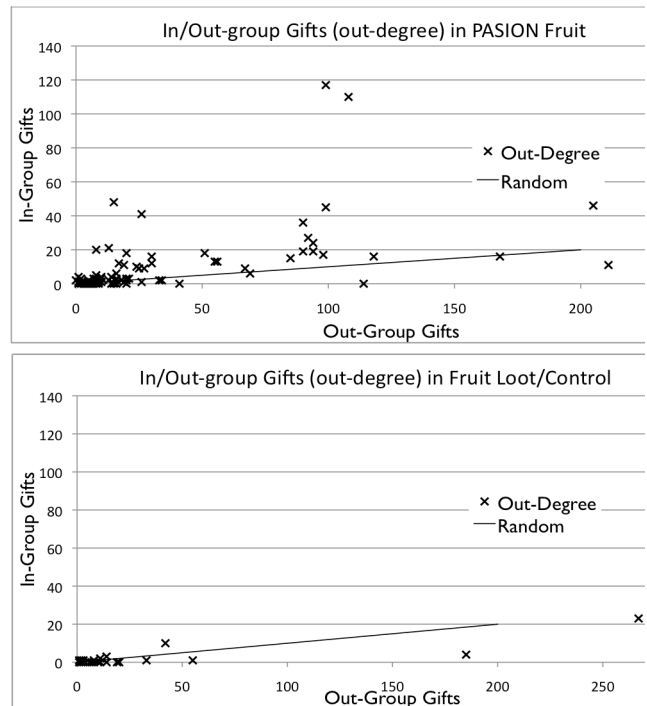


Figure 3 - In-group favouring behaviour in PASION Fruit

the social condition when compared to the control condition. This reflects the non-intuitive aspect of the minimal group paradigm. Individuals may assume, looking back, that their choices of interaction partners were based on rational and measured decisions (e.g. interacting with the most suitable player for personal gain, regardless of group). However the reality of the activities as exposed by the quantitative data in the server logs highlights the cognitive bias at play in social systems that use tribal metaphors.

DISCUSSION

Tools of Tribalism and social identity are frequently used for negative purposes: as dictators have known for centuries, creating divisions and artificial groups leads to measurably greater engagement and fervour for a cause. In other words, it is used because it works. This paper explores the application of these techniques to discover if the same principles apply in the context of the design of mechanics that drive social games.

Many social games already use tribal metaphors such as guilds, clans and factions to great success, and those mechanisms appear to directly convert into increased engagement of players with the game. In experimental conditions, research has shown that socio-contextual feedback that augment a game with explicit feedback about implicit social factors, directly support the ability of groups of players to collaborate on problem solving [17] and increase general social engagement within games [10].

This paper introduced an experiment to understand the social behaviour of players within a tribal metaphor. In the social game *PASION Fruit*, players were randomly placed in groups, which showed some social feedback in the form of social network visualisations. A control version of the game was also released in the same format, except without the socio-contextual feedback.

The results of the experiment show that the broader social behaviours in both games were comparable (similar patterns of interaction were observed), however players in the social condition exhibited a greater degree of in-group favouring behaviour than in the control.

This means that the tribal mechanic of placing users in groups only resulted in significant tribal effects where there was sufficient contextual information displayed to those players. This finding echoes that of Tajfel and Turner [24] in non-game social groupings. They identified that *prevailing context* was one of several factors that contributed to the emergence of in-group favouritism. In the context of online social games, the key factor appears to be that group members require a minimum level of social feedback in order to trigger these feelings of social identity and to in-group bias in their actions. In other words, it is important to make it clear to the users that there is a meaningful distinction between the groups. Social gaming applications must carefully design the social experience with consideration to social feedback mechanisms. In order

to encourage group behaviour, a minimum level of feedback is required - in this example, social network visualisations were used but other feedback mechanisms may also be effective. The emergence of in-group bias, in a system with enough social feedback, is directly measurable in the activities of the users, even if they do not strongly recognise this behaviour in self-reflection of their actions. Even when tribe membership is determined completely randomly, with the addition of social feedback, players show preferences for social play within their own tribes.

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